AMENDMENTS

IN THE CLAIMS:

Please amend claims 1, 17 and 19 as follows below:

1. (Currently amended) A modem for bi-directional transporting of an Ethernet signal over a configurable number of telephone lines, comprising:

(a) a first port connected to a physical layer module ~~adapted~~ configured to receive and transmit a single Ethernet signal;

(b) a data splitter ~~adapted~~ configured to split the received Ethernet signal into the configurable number of downstream data signals;

(c) a second port comprising the configurable number of Digital Subscriber Line (DSL) ports coupled to said data splitter,

- wherein each Digital Subscriber Line (DSL) port is ~~adapted~~ configured to transmit a separate downstream Digital Subscriber Line (DSL) signal having a configurable downstream data rate,

- wherein each Digital Subscriber Line (DSL) port is further ~~adapted~~ configured to receive a separate upstream Digital Subscriber Line (DSL) signal having a configurable upstream data rate, and

(d) - a data collection and reorganization unit coupled to said Digital Subscriber Line (DSL) ports and ~~adapted~~ configured to assemble said upstream Digital Subscriber Line (DSL) signals into the single Ethernet signal for transmission by said physical layer module.

2. (Previously presented) The modem according to claim 1, wherein the data splitter comprises:

- a splitting unit which splits the Ethernet data frames of the single Ethernet signal into split frames depending on the number of installed active Digital Subscriber Line (DSL)-ports and the downstream data rates of said active Digital Subscriber Line (DSL)-ports; and

- a tagging unit for tagging the split frames with sequence numbers and with the port numbers of the respective Digital Subscriber Line (DSL)-ports to which the split frames are transmitted by the tagging unit.

3. (Previously presented) The modem according to claim 1, wherein the data collection and reorganization unit comprises:

- a sequence number detection unit for detecting the sequence numbers of split frames received by the data collection and reorganization unit from the Digital Subscriber Line (DSL)-ports; and

- a frame assembly unit which assembles the split frames to Ethernet data frames of a single Ethernet signal depending on the detected sequence number and the port numbers of the respective Digital Subscriber Line (DSL)-ports from which the data collection reorganization unit receives the split frames.

4. (Original) The modem according to claims 1, comprising a flow and rate control memory for storing the Ethernet data stream of the Ethernet signal assembled by said data collection and reorganization unit, wherein the flow and rate control memory is provided to compensate differences in transmitting rates between said first port and said second port.

5. (Previously presented) The modem according to claim 1, comprising a configuration and auto sense unit for sensing the port numbers of all active Digital Subscriber Line (DSL) ports installed in the second port of said modem.

6. (Previously presented) The modem according to claim 1, comprising a MII interface which is connected to the physical layer module via a 2-port Media Independent Interface (MII) bridge.

7. (Previously presented) The modem according to claim 1, comprising a controller for configuring the MII interface, the data collection and reorganization unit and the data splitter depending on the number of active Digital Subscriber Line (DSL) ports sensed by said configuration and auto sense unit.

8. (Previously presented) The modem according to claim 1, wherein the upstream data rate of each Digital Subscriber Line (DSL) signal is equal to the downstream data rate of said Digital Subscriber Line (DSL) signal.

9. (Original) The modem according to claim 1, wherein the high data rate of said single Ethernet signal is 100 Mbps.

10. (Previously presented) The modem according to claim 1, wherein the maximum number of installed Digital Subscriber Line (DSL)-ports is four.

11. (Original) The modem according to claim 1, wherein the telephone line is a twisted pair of copper wires.

12. (Original) The modem according to claim 1, wherein the first port is a 100BaseT port.

13. (Original) The modem according to claim 1, wherein the second port is a 100 BaseS port.

14. (Previously presented) The modem according to claim 1, wherein each Digital Subscriber Line (DSL)-port measures a maximum data rate for transmission and reception of a Digital Subscriber Line (DSL) signal over the respective telephone line connected to said Digital Subscriber Line (DSL)-port.

15. (Previously presented) The modem according to claim 1, wherein each Digital Subscriber Line (DSL)-port comprises a link establishment result register for storing the measured respective maximum data rate of said Digital Subscriber Line (DSL)-port.

16. (Previously presented) The modem according to claim 14, wherein the maximum data rates of all installed active Digital Subscriber Line (DSL)-ports are indicated by said Digital Subscriber Line (DSL)-ports to the auto-sense unit via lines and are stored with the corresponding port numbers of the Digital Subscriber Line (DSL)-ports.

17. (Currently amended) A point to point facility transport system for the bi-directional transport of an Ethernet signal over N telephone lines connecting a central office facility to a customer premise, comprising:

- N downstream transmission paths for transporting a single Ethernet signal from the central office facility to the customer premise, each downstream transmission path operative to transport a data stream having downstream data rates;

- N upstream transmission paths for transporting a single Ethernet signal from the customer premise to the central office facility, each upstream transmission path operative to transport a data stream having configurable data rate;

- first modem means located at the central office facility and coupled to one end of said N downstream transmission paths and to one end of said N upstream transmission paths;

- second modem means located at the customer premises and coupled to the one end of said N downstream transmission paths and the other end of said N upstream transmission paths;

- wherein said first modem means and said second modem means are operative to transmit to and receive from said N telephone lines data frames encapsulating said Ethernet signal; and

- wherein said first modem means and said second modem means further comprises:

(a) a first port connected to a physical layer module ~~adapted~~ configured to receive and transmit a single Ethernet signal having a high data rate;

(b) a data splitter ~~adapted~~ configured to split the received Ethernet signal into a configurable number of downstream Digital Subscriber Line (DSL) signals;

(c) a second port comprising a configurable number of Digital Subscriber Line (DSL) ports coupled to said data splitter, wherein each Digital Subscriber Line (DSL) port is ~~adapted~~ configured to transmit a separate downstream Digital Subscriber Line (DSL) signal having a configurable downstream data rate,

- wherein each transmitted downstream Digital Subscriber Line (DSL) signal is transmitted via a corresponding telephone line connected to said Digital Subscriber Line (DSL) port,

- wherein each Digital Subscriber Line (DSL) port is further ~~adapted~~ configured to receive a upstream Digital Subscriber Line (DSL) signal having a configurable upstream data rate,

- wherein each received upstream Digital Subscriber Line (DSL) signal is received over said telephone line connected to said Digital Subscriber Line (DSL) port; and

(d) a data collection and reorganization unit coupled to said Digital Subscriber Line (DSL) ports and ~~adapted~~ configured to assemble said upstream Digital Subscriber Line (DSL) signals into said single Ethernet signal for transmission by said physical layer module.

18. (Original) The facility transport system according to claim 17,

- wherein the transmission paths utilize quadrature amplitude modulation to transport said Ethernet signal between said central office facility to said customer premise.

19. (Currently amended) A facility transport system for bi-directional transport of a Ethernet signal over N telephone lines connecting a central office facility to a customer premise, comprising:

- N downstream transmission paths for transporting a single Ethernet signal from the central office facility to the customer premise, each downstream transmission path operative to transport a data stream having a configurable data rate;

- N upstream transmission paths for transporting a single Ethernet signal from the customer premise to the central office facility, each upstream transmission path operative to transport a Digital Subscriber Line (DSL)-signal having a configurable data rate and;

- switch means located at the central office facility and coupled to one end of said N downstream transmission paths and one end of said N upstream transmission paths;

- a network element located at the customer premises and coupled to the other end of said N downstream transmission paths and the other end of said N upstream transmission paths;

- wherein said switch means and said network element are operative to transmit to and to receive from said N telephone lines data frames encapsulating said Ethernet signal, wherein N is a positive integer;

- wherein each switch means and network element comprises at least one modem having:

(a) a first port connected to a physical layer module ~~adapted~~ configured to receive and transmit a single Ethernet signal;

(b) a data splitter ~~adapted~~ configured to split the received signal into a configurable number of downstream Digital Subscriber Line (DSL) signals;

(c) a second port comprising a configurable number of Digital Subscriber Line (DSL) ports coupled to said data splitter, wherein each Digital Subscriber Line (DSL) port is ~~adapted~~ configured to transmit a separate downstream Digital Subscriber Line (DSL) signal having a configurable downstream data rate, wherein each transmitted downstream Digital Subscriber Line (DSL) signal is transmitted via a corresponding telephone line connected to said Digital Subscriber Line (DSL) port,

wherein each Digital Subscriber Line (DSL) port is further ~~adapted~~ configured to receive a separate upstream Digital Subscriber Line (DSL) signal having a configurable upstream data rate,

wherein each received upstream Digital Subscriber Line (DSL) signal is received over said telephone line connected to said Digital Subscriber Line (DSL) port; and

(d) a data collection and reorganization unit coupled to said Digital Subscriber Line (DSL) ports and ~~adapted~~ configured to assemble said upstream Digital Subscriber Line (DSL) signals into a single Ethernet signal for transmission by said physical layer module.